What is claimed is:

1. A vari-focal polar alignment scope comprising;

an objective optical system,

a relay optical system which relays an image formed through said objective optical system to form a secondary image, and

an eyepiece optical system for observing said secondary image, in that order from the object side;

wherein said relay optical system comprises an erecting vari-focal viewing optical system, including a positive condenser lens element constituting a first relay lens group, a positive second relay lens group, and a positive third relay lens group, wherein said second and third relay lens groups relatively move in a direction along the optical axis thereof so as to vary the magnification of said polar alignment scope, wherein the following conditions (1), (2) and (3) are satisfied:

$6.0 < f_o/fe < 10.0$ ... (1);

$-4.0 < M_{2L} < -1.0$ ... (2); and

$0.2 < M_{3L} < 0.6$ ... (3); wherein

$f_o$ designates the focal length of said objective optical system;

fe designates the focal length of said eyepiece optical system;

$M_{2L}$ designates the lateral magnification of said

second lens group of said relay optical system at a low magnification; and

$M_{3L}$ designates the lateral magnification of said third lens group of said relay optical system at a low magnification.

2. The vari-focal polar alignment scope according to claim 1, wherein a target plate having a scale thereon for setting the polar axis is provided at an imaging point of said objective optical system.

3. The vari-focal polar alignment scope according to claim 1, wherein said second relay lens group comprises a cemented lens having a positive biconvex lens element and a negative meniscus lens element, in that order from the object side.

4. The vari-focal polar alignment scope according to claim 1, wherein said third relay lens group comprises a cemented lens having a positive biconvex lens element and a negative meniscus lens element, in that order from the object side.